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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,159	11/12/2000	Todd Sutton	51010.P019	6774

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EXAMINER

CRAVER, CHARLES R

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 09/17/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,159

Applicant(s)

Sutton et al

Examiner

Charles Craver

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-12, and 18-25 is/are rejected.
- 7) ☒ Claim(s) 5-9 and 13-17 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Nov 12, 2000 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7 6) ☐ Other:

Art Unit: 2682

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 1-4, 11, 12 and 19-25 are rejected under 35 U.S.C. 102(b) as being anticipated by McGeehan et al (WO96/15596).

Claim 1: McGeehan discloses a method for receiving an indicator of a signal strength indicating a power level of a coupled signal from a local transmitter to a local receiver, and an active cancellation circuit to generate a cancellation signal to combine and reduce said indicator (page 3 lines 5-28). **Claim 2:** the transmitter and receiver operate in the same band which is shared by others (page 14 lines 2-16). **Claims 3 and 4:** McGeehan discloses steps of remeasuring the indicator and further adjusting the control signal in a first or second direction based on the level of the measured indicator, which would be different from the last measured level. **Claim 11:** since the invention of McGeehan operates with other transceivers in the same frequency, said coupled signal could also be from said other transceiver. **Claim 12:** the circuit of McGeehan

Art Unit: 2682

samples the transmitted signal (page 3 lines 5-20), in which case the circuit would be tuned to the same center frequency as that of the receiver.

Claim 19: McGeehan further discloses the use of bi-phase attenuators to attenuate the coupled signal indicator in a first path and a second quadrature path via gain adjustments, and summing means (page 8 line 21-page 9 line 16, FIGS 7 and 9). **Claim 20:** McGeehan discloses a duplex system (page 1 lines 2-3). **Claims 21 and 23:** McGeehan discloses other radios, in which case the cancellation circuit may be tuned to a coupled signal from a second radio, since it does not distinguish the source of the coupled signal. **Claim 22:** the second radio would thus be a full duplex radio such as the one taught in the main embodiment of McGeehan.

Claims 24 and 25: are the inherent physical embodiments of method claim 1 above, and as such are rejected for the same reasons set forth above; note that McGeehan discloses a DSP which includes a machine readable medium and a state machine.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

McGeehan as applied to claim 1 above.

Art Unit: 2682

While disclosing applicant's invention of claim 1 as shown above, McGeehan fails to disclose a plurality of step sizes and integration times and storing said data in a memory, however, such was notoriously well known in the art at the time of the invention, and as such the examiner takes Official Notice of such a feature, asserting that it would have been obvious to one of ordinary skill in the art at the time of the invention to add steps and varying integration times and a memory to McGeehan, as it would allow faster operation, especially given that McGeehan discloses a DSP, which inherently comprises a memory for storing data during processing.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

Art Unit: 2682

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 2, 11, 12 and 19-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,539,204 (Marsh). Although the conflicting claims are not identical, they are not patentably distinct from each other because the method of Marsh uses a model of the coupled signal which would indicate the power level of the signal. Claims 2 and 11 of the instant invention corresponds to claim 14 of Marsh. Claim 12 of the instant invention corresponds to claim 9 of Marsh. Claim 1 of Marsh discloses the quadrature attenuation of claim 19 of the instant invention. Claims 20-23 of the instant invention corresponds to claim 5 of Marsh. Claims 24 and 25 of the instant invention corresponds to claim 1 of Marsh.

Allowable Subject Matter

7. Claims 5-9 and 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2682

Claim 5 teaches towards a method for reducing a coupled signal in a transceiver by measuring a coupled signal and using a cancellation circuit to reduce the coupled signal, wherein the signal is iteratively measured to continue to reduce the signal by changing the magnitude of the cancellation signal in a first or second direction, wherein the circuit locks after adjustment of the signal has switched directions at least twice. Claim 8 discloses that the step size of the adjustment may change to a different level after the signal has locked at least once. Claim 9 discloses that the integration time of the adjustment may change to a different level after the signal has locked at least once.

Claim 6 teaches towards a method for reducing a coupled signal in a transceiver by measuring a coupled signal and using a cancellation circuit to reduce the coupled signal, wherein the signal is iteratively measured to continue to reduce the signal by changing the magnitude of the cancellation signal in a first or second direction, wherein the circuit may further adjust a second dimension control signal in the first or second direction based on a comparison between the present indication and a previous one, in addition to a first dimension control signal adjustment.

Claim 13 teaches towards a method for reducing a coupled signal in a transceiver by measuring a coupled signal and using a cancellation circuit to reduce the coupled signal, wherein the signal is iteratively measured to continue to reduce the signal by changing the magnitude of the cancellation signal in a first or second direction, wherein the circuit tunes only when the

Art Unit: 2682

transmitter is in a local transmission-only mode, and when the receiver is not receiving. Claim 14 further recites that the signal operates at a particular level in such a case.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Batlivala et al, Ekstrom and Palmer et al discuss means to reduce a coupled signal.

10. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

(703) 872-9314 (for informal or draft communications, please label "PROPOSED"

or "DRAFT")

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington VA, sixth floor (receptionist).


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Craver whose telephone number is (703) 305-3965.

Art Unit: 2682

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (703) 308-6739.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

cc
C. Craver
September 8, 2003

 9-8-03
CHARLES CRAVER
PATENT EXAMINER